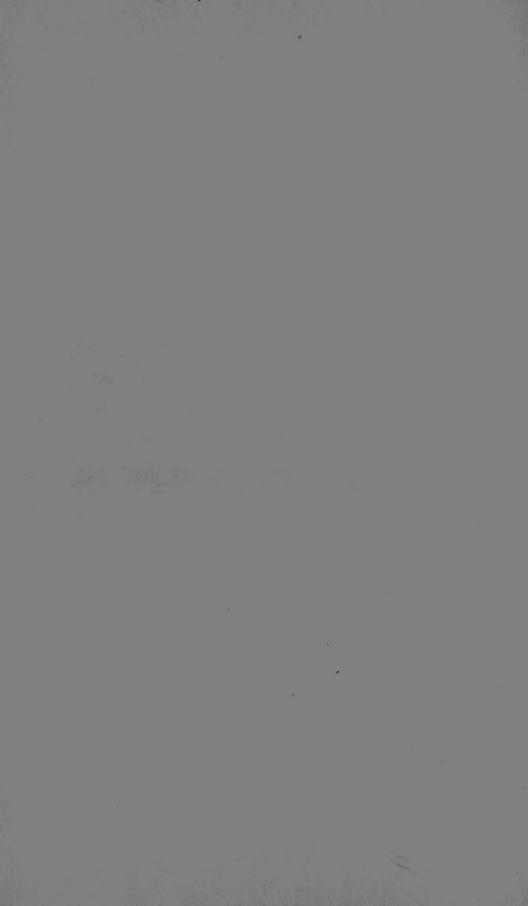


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PLAGUE

MARSÉILLES

CONSIDER'D:

With REMARKS upon the PLAGUE in General, shewing its Cause and Nature of INFECTION, with necessary Precautions to prevent the spreading of that DIREFUL DISTEMPER: Publish'd for the Preservation of the People of GREAT BRITAIN.

Also some Observations taken from an Original Manuscript of a Graduate Physician, who resided in LONDON during the whole Time of the late Plague, Anno 1665.

By RICHARD BRADLEY F. R. S.

The SECOND EDITION.



LONDON:

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HARVARD UNIVERSITY
SCHOOL OF MEDICINE AND PUBLIC HEALTH

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To Tropic of the Control of the Cont

Sir Isaac Newton,

President of the Royal Society, &c.

by the latest of Matter 1 Street of the latest of the late



O Act under Your Influence, is to do Good, and to Study the Laws

of Nature, is the Obligation I owe to the Royal Society, who have so wisely placed Sir Isaac Newton at their Head.

The

DEDICATION.

The following Piece, therefore, as I design it for the Publick Good, naturally claims Your Patronage, and, as it depends chiefly upon Rules in Nature, I am doubly obliged to offer it to the President of that Learned Assembly, whose Institution was for the Improvement of Natural Knowledge.

Of 21 STPam, Sir

Of has boowith due Respect,

Your most obliged,

I more and Humble Servan

Tid mosto vide a send of w



Occasion for a Preface to this Treatise, if the last Foreign Advices had not given us something particular relating to the Pestilence that now rages in the South Parts of France; and what may more particularly recommend these Relations to the World, is, because they come from Physicians, who resided at the Infected Places.

The

The Physician at Aix gives us the following Account.

The Contagious Distemper, which has become the Reproach of our Faculty here for above a Month past, is more violent than that at Marleilles; it breaks out in Carbuncles, Buboes, livid Blisters, and purple Spots; the first Symptoms are grivous Pains in the Head, Consternations, wild Looks, a trembling Voice, a cadaverous Face, a Coldness in all the extreme Parts, a low unequal Pulse, great Pains in the Stomach, Reachings to Vomit, and these are follow'd by Sleepiness, De-

Deliriums, Convulsions, or Fluxes of Blood, the Forerunners of sudden Death. In the Budies that are open'd, we find gangrenous. Inflammations in all the lower Parts of the Belly, Breast and Neck. Above sifty Persons have died every Day for three Weeks past in the Town and Hospitals. Most of them fall into a dreadful Phrenzy, so that we are forc'd to tie them.

The other is a Letter from a Physician at Marseilles, sent to John Wheake, Esq; who was so kind to give me the Abstract.

Mar-

Delivious Conveniences or Fluxes of Marfeilles Sept. 15.1720.

den Death. In the Bodies, figit

-usl/

T Arriv'd here the 8th, and enter'd the Gate of Aix which leads to the Cours, which has always been effeem'd one of the most pleasant Prospects in the Kingdom, but that Day was a very dismal Spectacle to me; all that great Place, both on the Right and Left, was fill'd with Dead, Sick, and Dying Perfons. The Carts were continually employ'd in going and returning to carry away the Dead Carcasses, of which there were that

that Day above four Thousand. The Town was without Bread, without Wine, without Meat, without Medicines, and in general, without any Succours.

The Father abandon'd the Child, and the Son the Father; the Husband the Wife, and the Wife the Husband; and those who had not a House to themselves, lay upon Quilts in the Streets and the Pavements; all the Streets were fill'd with Cloaths and Houfliold - Goods, strew'd with Dead Dogs and Cats, which made an insupportable Stench. Meat was Sold at 18 to 20 Sous per Pound, and was only di**ftributed** 1,1277

stributed to those that had Billets from the Confuls: This, Sir, was the miserable State of this City at that Time, but at present, Things have a better appearance; Monsieur le Marquis de Langeron, who Commands here, has caused the Dead to be Buried, the Cloaths and Goods to be burnt, and the Shops to be open'd, for the Sustenance of the Publick.

Two Hospitals are prepar'd where they carry all the Sick of the Town, good Orders are daily re-establish'd, and the Obligation is chiefly owing to Monsieur de Langeron, who

who does Wonders. However, there is not any Divine Service Celebrated, nor are there any Confessors. The People die, and are buried without any Ceremonies of the Church; But the Bishop, with an undaunted Courage, goes thro' the Streets, and into Publick Places, accompanied with a Jesuit and one Ecclesiastick, to Exhort the Dying, and to give them Absolution; and he distributes his Charity very largely. The Religious Order have almost all perish'd, and the Fathers of the Oratory are not exempt; it is accounted, b 2 that

that there have died 50000 Persons. One thing very particular is, that Monsieur Monstier, one of the Confuls of the City, who has been continually on Horseback ordering the Slaves who carried away the Dead in Carts, or those that were Sick, to the Hospitals, enjoys his Health as well as he did the first Day he began; the Sickness seems at present to abate, and we have the Satisfaction to fee several whom we took under our Care at the Beginning of the Sickness, promise fair towards a Recovery. The Sickness howeyer, is of a very extraordi-Service Services nary

nary Nature, and the Observations we have in our Authors, have scarce any Agreement with what we find in this: It is the Assistance of Heaven we ought to implore, and to wait for a Blesling from thence upon our Labours.

I am, &c.

We may observe, that the Contagion now spreading it self in Foreign Parts, has nearly the same Symptoms that were observed in the late Plague at London; so that what Medicines were then used with good Success, may direct not on-

ly the People of England in the way of Practice, if God Almighty should please to afflist us with that dreadful Distemper, but be serviceable likewise to the Infected Places abroad. There is room enough to hope, the approaching Cold, which we naturally expect at this Season, may prevent its spreading among st us for some Months, 'till the Air begins to warm, but the Seeds of that Kenom may be brought over in Merchandizes even in the coldest Months, and according to the Nature of Insects well not batch, or appear to our Prejudice, till the botter Seafons. For to suppose this Malignant

Distemper is occasion'd by Vapours only arising from the Earth,
is to lay aside our Reason, as I
think I have already shewn in
my New Improvements of
Planting, Sc. to which my
Reader may refer.



THE

Descripting from the saith, is to key afule our Reafon, as I think I have already specum in my wew Improvements of Lanting, See to which my refer.





THE

PLAGUE

the Leadership of the Celumn T A

MARSEILLES

CONSIDER'D, &c.

H E Deplorable Condition of the Marseillians, and the Danger that all the Trading Parts of Europe are now in, of being Infected by the Plague which rages in the

South Parts of France, and every Day spreads it self more and more over the Neighbouring Countries, gives me occasion to Publish some Papers which would never have otherwise appeared in the World.

When

When I consider the melancholy Circumstances of the People of Marseilles and other infected Places, how they are now divested of Relief, and brought into that miserable State, that even every Man is terrified at the Approach of his dearest Friend, and the very Aspect of our Neighbours strike such Horror and Consusion in us, as if they brought our Death and Destruction with them; it is then surely time for every one to contribute all that in him lies to prevent the Progress of so direful a Calamity.

The good Counsels of our Nation, therefore, to prevent as much as possible the Infection which might be brought among us by Merchandizes coming from Infected Places, have wifely order'd strict Quarantine to be perform'd, before either the Sailors or Goods can be brought ashoar.

The Neighbouring Nations of Trade, have follow'd our Example, but the Hollanders in an extraordinary manner, have even order'd the Burning the very Ships and Goods coming from Marseilles, and have been so cautious, as to suffer none of the Passengers to come on Shoar, without first being distrob'd of all their Apparel, and even to be well

(10)

[3]

well wash'd with the Sea Water, and then likewise to perform Quarentine in a little Island, remote from the Inhabitants. I could mention many Relations we have had, of the Sufferings of the poor People belonging to Marseilles, who to avoid the dismal Consequences of the Plague, have flown for Refuge into the Country, and have either been starv'd to Death, or Murder'd by the Country People; but yet we find, that notwithstanding all these Precautions, that Pestilence continues to destroy as much as ever, and makes its advances every Day more and more towards us.

It is computed that about 60000 are Dead of the Plague at Marfeilles, and that there are not now (October 20. N. S.) above 14000 Persons lest in that Town, including 10000 Sick; and at Aubagne, out of 10000 who retir'd thither from Marseilles, above 9000 are Dead.

On this fad Occasion of the Ruin of Marfeilles, especially since there is talk of Burning that Town, it may not be unseasonable to give an Account of it.

Marseilles is one of the most Considerable Cities in France, and the most po-

pulous and most trading Town of all Provance. It is so Ancient, that it is reckoned to have been Built upwards of six hundred and thirty Years before the Birth of our Saviour. It was once a very flourishing Republick; and its University was in such Esteem, as drew Students thither from all Parts of Europe.

-nuo and vel brackers of his Country Marseilles is situate at the Foot of a Hill, which rises in the Form of an Amphitheatre in proportion to its Distance from the Sea. The Harbour is Oval, and bounded by a Key about fourteen hundred Paces long, upon which stand the handsomest Houses in the Town. It affords a very delightful Walk, Part whereof is taken up in the Day time by the Working Gally-Slaves Stalls, where you may furnish yourself with Cloaths and other Necessaries; the Entrance of the Harbour is shut up by a Chain supported at certain Distances by three Stone-Pillars; so that only one large Ship can pass at a time, tho' the Haven will contain about Five hundred. And hither are brought all forts of Commodities from all Parts of the known World.

"Ma fille is one of the most Confider-

27/1/5 1 20

adTice in Iron, and the work po-

The Cathedral Church, call'd Notre Dame la Majeure, whereof S. Lazarus is Patron, is very Solemn. It was former-' ly a Temple dedicated to Venus, or to Diana of Ephesus. Its Form is Irregular; but it was not thought proper to add or diminish any Thing. There remain feyeral large Columns, on which stood the Idol. The Treasure of this Church is very rich. Here you see the Head of S. Lazarus, that of S. Cannat, a Foot of S. · Victor, and many other Relicks. ' the Cathedral, is a Chappel built upon ' the Spot where (the Marseillians tell you) S. Mary Magdalen preach'd the Gospel to the Idolaters as they came out of the 'Temple.'

'Notre Dame des Acoules is also a fine large Church, which was formerly a Temple facred to the Goddess Pallas. In that of S. Martin, which is Collegiate and Parochial, is preserved a Silver Image of the blessed Virgin, five Foot and a half high, the Crown and Ornaments whereof are very rich, The Church of S. Saviour, now belonging to a Nunnery, was anciently a Temple of Apollo. All these Places are so many Proofs of the Antiquity

quity of Marseilles, as well as two other Temples near the Port, with two Towers,

viz. that of S. John, which is a Com-

mandry of the Knights of Malta, and

chat of S. Nicolas siles signed a gi

The Abby of S. Victor, of the Order of S. Benedict, is fituate at the Foot of the Citadel. "It resembles a Castle, being encompass'd with Walls, and set off with Towers." At the Front of the Church are these Words address d to S. Victor;

(not les smailles part ent) este foue tuere, ?

In a Chappel on one fide of the Epifle, you see the Head of that Saint, in a Shrine of Silver guilt, finely Wrought, which was given by Pope Urban V. whose Tomb is on one fide of the Choir, There are many other Relicks in this Church. You then descend a large Stair-Case into the Church under Ground, where the Chappels visited by the Curious, are full of Holy Bodies. There they shew you the Tomb of S. Eusebius, and those of forty five Virgins who dissigured themselves to terrifie the Vandals who put them to Death. Here also you see St. Andrew's Cross entire, and

and eight Inches Diameter. In one of these subterraneous Chappels is a little Grotto, wherein S. Mary Magdalen, (they tell you,) upon her Landing at Marseilles began to do Penance. They add, that she Inhabited it six or seven Years: Her Statue likewise is represented, lying at the entrance of this Grotto. There is also a rich Chappel of our Lady, wherein no Women are permitted to enter. This Order was made, upon the Vulgar Notion, of a Queen's being struck Blind, who had the Temerity to venture into it.

'In Marfeilles you observe likewise the Monasteries and Churches of the Carthusians, the Monks of St. Anthony, the Trinitarians, Jacobins, Augustins, Baresooted ed Augustins, Carmelites, Baresooted Carmelites, Cordeliers, Observantins, Servites, Minims, Capuchins, Recollects, de la Mercy, Feuillans, Jesuites, Fathers of the Oratory, and of the Mission. There are also Benedictine Nuns, Dominicans, Nuns of S. Clare, Capuchins, Carmelites, Bernardines, Urselins, Nuns of the Visitation of Mercy, and of the good Shepherd or Respectance; and a Commandry of Malta.

as define Inches Diameter. In one of The Citadel of Marseilles is near the Port, extending its Fortifications to the Entrance of the same; and yet it commands the Town. The Key which lines this fide of the Harbour, from Fort S. Nicolas to the Arfenal, is about fifteen 'hundred Paces long, and is Adorned with handsome Ware Houses and Dwelling-Houses, Here is the great Hospital for Sick Slaves, which was formerly the Ar-Genal till the New one was built. Six ' large Pavilions, as many main Houses, and ' a great Square Place, big enough to build several Galleys at a time in, form the Design of it. In this Place are two large Basons, as long and as deep as a Galley, in each of which, when a Galley is ready to launch, they open a small Sluice which kept up the Sea Water.

'This great Building makes one entire Front of the Port, three hundred Paces in Length; the Harbour of Marfeilles, is thirteen hundred Paces long, and the Cit-cumference about three thousand four hundred and fifty Paces. The Streets of the old Town are long, but narrow; those of the New are spacious, and well Built. The Chief is that, they call le Cours, which is 'near

F 9 7

e near forty Paces broad, in the middle of which is a Walk, planted with four Rows of young Elms, which,

with the Keys, are the Places of publick

Resort.

- 'The Town-House which they call La Loge, is situate upon the Key over against the Galleys. Below is a large Hall, which serves the Merchants and Sea-faring Men for an Exchange; and above Stairs, the Confuls, Town - Counsellors, and others concerned in the Civil Administration have their Meeting. The most valuable Piece in this Building is the City-Arms in the Front, Carved by the famous · Puget.
- Marseilles seems still to retain somewhat of the ancient Government of its four Courts being divided into four ' Quarters, viz. S. John, Cavaillon, Corps de ville, and Blancaire; each of which hath its Governours and other Officers. The Porte Royalle is well Adorned, having on one side the Figure of S. Lazarus, and on the other, that of S. Victor., ' And in the middle is a Busto of Lewis 'XIV. with this Inscription over it, Subcu-' jus imperio summa libertas. c The

[01]

The Town is encompass'd by good Walls, and a Tetragon which commands a Part of it, is the best of the two Citadels, and within Cannon Shot of a Fort call'd Notre Dame de la Garde, whither the Inhabitants fréquently go to pay their Devotion, and from whence they discover Ships at Sea at a great Distance. This Fort is built on the top of a Mountain, upon the Ruins of an ancient Temple of Venus, called Ephesium.

The Country about this City is low and open for two Miles, agreeably Adorn'd with Villas, Vinyards, and Gardens of Fig-Trees and Orange-Trees, with plenty of Water from a good Spring, which being divided into several Branches serves to furnish the City.

As to the Inhabitants, they are for the most part Poor and Uncleanly, and chiefly Eaters of Fruit, Herbs, and Roots with such like Meagre Fare, nor do they take any Pains to clean the Streets where the meaner Sort have their Habitation. Their Bread is very coarse and high Priz'd; and perhaps what has principally Contributed to the Progress of the Plague among them, was the great Num-

[ii]

Numbers of those which Lodged together in the same House, as I shall explain hereafter. When I have Examin'd the State of London, when it Suffer'd by the Plague in the Year 1665.

London at the time of the Plague, 1665 was, perhaps, as much crouded with People as I suppose Marseilles to have been when the Plague begun; the Streets of London were in the Time of the Pestilence very Narrow, and, as I am Inform'd, unpaved for the most Part; the Houses by continu'd Jetts one Story above another, made them almost meet at the Garrets, so that the Air within the Streets was pent up, and had not, a due Freedom of Passage, to purifie it self as it ought; the Food of the People was then much less Invigorating than in these Days; Foreign Drugs were but little in Use, and even Canary Wine was the highest Cordial the People would Venture upon; for Brandy, some Spices, and hot Spirituous Liquors were then not in Fashion; and at that time Sea-Coal was hardly in Use, but their firing was of Wood, and, for the most part, Chestnut, which was then the chief Furniture of the Woods about London, and in such Quantity, that the greatest Efwere made by the Proprietors,

to prevent the Importation of New-castle Coal, which they represented a an unwholsome Firing but, I suppose, principally, because it would hinder the Sale of their Wood; for the generality of Menwere (I imagine) as they are now, more for their own Interest than for the Common Good.

The Year 1665 was the Last that we can fay the Plague raged in London, which might happen from the Destruction of the City by Fire, the following Year 1666, and befides the Destroying the Eggs, or Seeds, of those Poisonous Animals, that were then in the Stagnating Air, might likewise purific that Air in such a Manner, as to make it unfit for the Nourishment of others of the same Kind, which were Swimming or Driving in the Circumambient Air: And again, the Care that was taken to enlarge the Streets at their Rebuilding, and the keeping them Clean after they were rebuilt, might greatly Contribute to preserve the Town from Pestelence ever since, Section was hardwir

But it was not only in the Year 1665 that the Plague raged in London, we have Accounts in the Bills of Mortality, of that dreadful Distemper in the Years 1592, 1603,

1625,

[13]

may observe how many dyed Weekly of the Plague, and Remark how much more that Distemper raged in the hot Months, than in the others, and serve at the same time as a Memorandum to the Curious.



all Name of white the same

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ress rescond research than we.

A TABLE, Shewing how many Died Weekly, as well of all Diseases, as of the Plague, in the Years 1592, 1603, 1625, 1630, 1636; and the Year 1665.

Buried of all Diseases in the Tear 1592.

	Total	Pla.		Total	Pla.
March 17	230	. 3	August II	1550	797
March 24	351	31	August 18	1532	651
March 31	219	229	August 25	1508	449
April 7	307		Septemb. 1	1490	507
April 14	203	33	Septemb, 8	1210	\$63
April 21	290	37	Septem. 15	621	45 I
April 28	310	41	Septem. 22	629	349
May 5	350	29	Septem. 29	450	330
May 12	339	38	October 6	408	327
May 19	300	42	October 13	522	323
May 26	450	58	October 20	330	308
June 2	410	62	October 27		
June 9	441	81	Novemb. 3	310	301
June 16	399	99	Novem. 10	309	209
June 23	401		Novem. 17	301	107
June 30	850	118	Novem. 24	321	. 93
July,7	1440	927	Decemb. 1	349	94
July 14	1510	893	Decemb. 8	331	86
July 21	1491	258	Decem. 15	329	71
July 28	1507		Decem. 22	386	•
	1502	_			
TABLE	V				

The Total of all that have been buried is, Whereof of the Plague,

25886 11503

Buried

[15]

Buried of all Diseases in the Year 1603.

. 15 (1)	Total	Pla.	Carlotte Hart	150	Total	Pla.
March 17	. 108	3	July	21	1186	917
24	60		y 59-1	28	1728	1396
· 31	78	6	August	4	2256	1922
April 7	66	4	1 6:5	I	2077	1745
14		4 8	LE 1674	18	3054	2713
21	98	8		25	2853	2539
28	109	10	Septemb.	. 1	3385	3035
May 5	90	11	E	. 8	3078	2724
12	112	81,		15	3129	2818
19		22	1		2456	
26	122	32			1951	, -
June 2	114	30	October	2.1		1641
9	131	43	10	13		1149
. 15	144	59	101 04	20		
23	182	72	Jes 27e	27	625	508
30	267	158	Novemb.	-1	737	594
July 7	445	263	07 75	10	545	442
14	612	424	1115	17	384	25 I
TT! 0 T	•		1411	24	198	102
The Out-Pa-			Decemb.	I	222	102
rishes this			Marketten	8	163	55
Week were				15	20C	96
joined with			25	22	168	74
the City.	1		- 179	-61		

The Total this Year is, Whereof of the Plague,

37294 30561

Buried

[16]

Buried of all Diseases in the Year 1625.

Troub Plan	Total	Pla.	Total Pro	Total	Pla:
March 1	to the second of	99 1 7 2 1	A	2 2	10 1 0
WATER CO.		4			4115
0.22	10	8	1 4 4	5205	/
3		TI	25	4841	4218
April	7 239	10	September 1	3897	3344
1	4 256				2550
6562	1 23C				1612
	305				1551
1,	292				
8129218				1236	
'20' m m al l	3 0		October 6	18 22	
\$ 6. 2 D - 2.70	/ /		13	100	
	401		20	651	331
June	395	69	27	3.75	134
6-7-11 F 1 P	9 434	91	November 3		
T.	510	161	10		
-37 7 22	640		1127 138.4	274	
	942		'del (00)		
			D 24	231	2 8 1 8
	7 1 222		December 1	190	
	4 781	•	8	181	
	1 2850		15	168	6
2	83583	2471	22	1.57	I
August	44517	3659		1	100
	6 1			4 4	A
The Total ti	his Tea	r is.		*	1758

The Total this Tear is, Whereof of the Plague,

51758 35403

[17]

Buried of all Diseases in the Year 1630.

S 11 - 51	tal	Pla.	Part Start I	Total	Pla.		
June 24	205	19	23	274	57		
July 1	209	25	30	269	56		
, 8	217	43	October 7	236	66		
15	250	50	14	261	73		
22	229	40	21	248	60		
29			28		34		
August 5	250		November 4		29		
12	246	65	11	215	29		
19			18		18		
26	270	67	25	226	7		
September 2	230	66	December 2	22 I	20		
9	259	63	9	198	19		
16	264	68	16	212	5		
70 * 1 * 1	24.0	n .:(J	1 .	٥		
Buried in the 97 Parishes within the 2696 Walls,							
Whereof of the Plague, 190							
Buried in the 16 Parishes without the \\ Walls,							
Whereof of the Plague, 603							
Buried in the o Out-Parishes in Middle-)							
fex and Surrey, and at the Pest-house, 3045							
Whereof of the Plague, 524							
Buried in Westminster, 566							
Whereof of the Plague, 31							
`	•						
The Total of all the Burials this time, 10545							
Whereof of the Plague, 1317							
		L		B	uried		

[84]

Buried of all Diseases in the Year 1638.

174.	1	Total	Pla.	11.4.4	ital	Total	Pla.
April	7		· 2	July	S 17		-0.
	14	205	4		14	372	104
This Week	thefe	2 1			21	365	120
Parisbes	were				28	423	151
added: St.			- ''	Augu	it 4	491	206
minster, 1					Ag Li	538	283
beth Parifi	b, St.	1 / 1	16 (10)		18	638	32I
Mary Nev		11.10	4 .		25	787	429
Parish, St.	edriff Ma-			Septe	mb. a	1011	638
ry Iflin		. /		5 .	1 8	1069	650
Stepney	and.		339	11.	15 15	1306	1865
Hackney rishes.	Pa-	,	100	8.37	22	1229	775
	113				3- 29	1403	
April	21		3	Octob	er 6	1405	921
2272 .	28	259		1-1	3 13	1302	792
May	5	251	10		20	1002	555
276,	12	308	55		51127	900	458
n = 1	19	1299	35	Nover	nber 3	1300	838
-	26	330	62		10	1.104	715
June	2	339	77	.1. <u>.</u>	0 017	950	573
	9	345	87	10/	24	857	476
ing places of	16	381	103	Decem	ber 1	614	321
317	23	304	7.9		8	459	167
3 17 2	30	352	104		15	385	85
10				0.0	- 11 1	1	. 1 . 1

The Total of the Burials this Tear, is Whereof of the Plague,

23359

[19]

Buried of all Diseases in the Year 166.

English total	[Total]	Pla.	Musica M	n	Total	Pla.
Decemb. 27	291	I	June	13	558	112
January 3		ŧ	75-7712	20		
10	394		11/11/19	27	684	267
. 17	415		July	4	1006	470
24	474	, ,	rangeri si		I 268	4
31	409	- 1	a Printed		,	1089
February 7		Care.			2785	
14		. 1	August			2010
21	1 -1-		111111			2817
28	1 - /			15	5319	3880
March 7		1	5 5000			4227
14		1		29	7496	6102
. 21			Septembe	er 5	8252	6978
28	1	6 373	e Shakin			6544
April 4	344		/			7165
11			00.1		6460	5533
18			October	3		
25				10		(1)
May 2	-		(311)	17		701
			NE. W	24		
				31		201
23		14	Novembe	,	1	1=
30	-4		7.5	14		100
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We may observe from hence, that the Months July, August, September, and October, the Plague was at the greatest height, and even in those Months, all other Distempers had greater Power over Human Bodies than in the others. When I consider this, I cannot help taking Notice, that in those Months we have our chief Fruit Seasons, and when it happens that there has been a Blight in the Spring, or the Summer has not given our Fruit due Maturity, I suppose that the Habit of the Body is so disposed as, to receive Infection more readily than in Years that either afford us little, or else very Ripe Fruit.

Again, in those warm Months, Isind that we have vast Varieties of the smaller kinds of Insects floating in the Air, and it is a thing constant, that every Insect from the greatest to the smallest has its proper Nidus to hatch and perfect it self in, and is led thither by certain Essluvia which arise from that Body which is in a right State for the preservation of it. In the Blight of Trees we find, such Insects as are appointed to destroy a Cherry Tree, will not injure a Tree of another Kind, and again, unless the Leaves of some Trees are bruised by Hail, or otherwise Distemper'd, no Insect will

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invade them; so in Animals it may be, that by ill Diet the Habit of their Body, may be so altered, that their very Breath may entice those poisonous Insects to follow their way, 'till they can lodge themselves in the Stomach of the Animal, and thereby occasion Death. We may likewise suppose that where these Insects have met with their appointed Nests, they will certainly lay their Eggs there, which the Breath of the diseased Person will sling out in Parcels, as he has occasion to Respire; so that the Insection may be communicated to a stander by, or else, through their extraordinary smallness, may be convey'd by the Air to some Distance.

It is observable, that all Insects are so much quicker in passing through their several Stages to the state of Perfection, as they are smaller, and the smallest of them are more numerous in their Increase than the others.

Amiens, I pass'd by that Place, and then found the Contagion began to abate ('twas then about October, and the Rains began to fall, the People told me they were advised to eat Garlick every Morning to guard their Stomachs against Inscetion; but whether it

was the Garlick, or the sudden alteration of the Season that was the occasion of the decrease of that Distemper, we shall examine in another Place, but we may Note, That all the Ground about that City is a Morass, so that there is no coming near it but by the Roads, which are Paved and mark'd out. This Marsh or Morass, as all others do in the Summer Season, produce vast Numbers of Insects which are accounted unwholsome, but as some are of Opinion, it is rather a Noxious Vapour which occasions this Insectious Distemper, I shall mention my Opinion of such Vapours before I concluded.

In the Philosophical Transactions, N° 8. we have the following Observations of Insects which are the Destroyers of Plants.

Some Years since there was such a swarm of a certain fort of Insect, in New-England, that for the space of 200 Miles, they poisoned and destroyed all the Trees of the Country; there being found innumerable little Holes in the Ground, out of which those Insects broke forth in the Form of Maggots, which turn'd into Elies that had a kind of Sting, which they stuck into the

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the Tree, and thereby envenom'd and

killed it.

'The like Plague is said to happen frequently in the Country of the Cossacks or Ukrani, where, in dry Summers, they are infested with such swarms of Locusts, driven thither by an East, or South-East Wind, that they darken the Air in the fairest Weather, and devour all the Corn f of that Country, laying their Eggs in Autumn, and then dying; but the Eggs, of which every one layeth two or three Hundred hatching the next Spring, produce again such a number of Locusts, that then they do far more Mischief than before, unless Rains fall, which kill both Eggs and Insects, or unless a strong North, or North-West Wind arise, which drives them into the Euxin Sea: " And it is very natural to suppose, that if the Winds have this Power over the larger fort of Insects, i. e. of moving them from one Country to another, the smaller kinds, which are lighter than the Air it felf, may be interceptibly Convey'd as far as the Winds can reach.

Dr. Wincler, Chief Physician of the Prince Palatine, gives us the following Account of the Murrain in Switzerland, and the Method of its Cure, in a Letter to Dr. Slare, F. R. S. Anno 1682.

On the Borders of Italy a Murrain infested the Cattle which spread farther into Switzerland, the Territories of Wirtemburg, and over other Provinces; and made great destruction amongst them? The Contagion seem'd to propagate it self in the form of a Blue Mist, that fell upon those Pastures where the Cattle Grazed, infomuch that Herds have returned home Sick, being very dull, forbearing their ' Food, most of them would die away in twenty four Hours. Upon dissections were discovered large and corrupted Spleens, sphacelous and corroded Tongues, fome had Angina Maligna's. Those Perfons that carelesly managed their Cattle. without a due respect to their own Health. were themselves Infected and Diedaway Like their Beafts.

from our Neighbours, we made such Provision against the invading Disease, that very sew of those who were insected by the Murrain died. Some impute this Contagion to the Witch-crast of three Capuchins in Switzerland. But the more learned believe it to proceed from some noxious Exhalations thrown out of the Earth by three distinct Earthquakes perceived here and in our Neighbourhood

The Method of Cure for the Cattle.

in the Space of one Year.

'As soon as ever there was any suspition of the Contagion upon any one of the Herd, the Tongue of that Beast was carefully examined, and in case they sound any Aptha or Blisters whether White, Yellow, or Black, then they were obliged to rub, and scratch the Tongue with a Silver Instrument (being about the breadth and thickness of a Six-Pence, but indented on the sides, and having a Hole in the middle whereby it is fastened to a Stick, or Handle, it is fastened to a Stick, and wishen they must wipe away the Blood with new unwashen Linnen. This done, a Lotion

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for the Tongue is used, made of Salt and good Vinegar. W. And Marie Will and most and and the sale with the sale w

The Antidote for the discassed Cattle, is thus described.

Commercian to the Wilderby at the co

Take of Soot, Gun-Powder Brimstone, Salt, equal Parts, and as much Water as is necessary to wash it down, give a large Spoonful for a Dosc.

After which we have a further Account of the Same Contagion by the Same Hand.

I lately received an Account of two ingenious Travellors, who affured me the Contagion had reached their Quarters on the Borders of Poland, having passed quite through Germany, and that the Method used in our Relation, preserved and cured their Cattle. They told me the Contagion was observed to make its Progress Dayly, spreading near two German Miles in twenty four Hours. This they say was certainly observed by many curious Persons, that it continually, without cintermission, made progressive Voyages, and suffered no neighbouring Parish to escape; so that it did not at the same time

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time infect Places at great distances. They added, that Cattle secured at Rack and Manger, were equally infected with those ' in the Field. It were worth the confidering, whether this Infection is not carried on by some volatile Insect, that is able to ' make only fuch short flights as may a-' mount to fuch Computations: For the account of the Ancients concerning the grand pestilential Contagions, is very little ' satisfactory to this Age, who derive it from a blind Putrefaction, from the incantations of ill Men, or from the conjunction of inauspicuous Planets.

The following Account we have from Dr. Bernard Ramizzinic concerning the Contagion among the Black Cattle about Padua, Translated from Acta Erudit.

In the Year 1712 a dreadful and vio-Lent Contagion seiz'd the Black Cattle, which, like an increasing Fire, could neither be extinguish'd nor stopt by any Human means.

This First was observed in Agro Vincentino, and Discover'd it self more openly ' in the Country, spreading every way, even to the very Suburbs of Padua, with a cru-E 2

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Destruction of the Cows and Oxen. It

was also in Germany, in many Places; and is not yet wholly conquer'd.

in the Field. it were worth confide-

Of this Diftemper, Dr. Ramazzini, made a particular Differtation; in which he inquir'd into the Causes of the Distemper, and what Remedies might be us'd, to put a stop to its violent Course.

It is evident, that this Distemper in Cows and Oxen, was a true Fever, from the coldness of the Cattle at first, which was foon fucceeded by a violent burning, with a quick Pulse. That this Fever was pestilential, its concomitant Symptoms plainly how, as difficulty of breathing, a Drowzie ness at the beginning; a continued Flux of a nauseous Matter from the Nose and Mouth. fetid Dung, sometimes with Blood, Pu-· stules breaking out over the whole Body on the fifth or fixth Day, like the Small-Pox; they generally dyed about the fifth or seventh Day.

The Author tells us, that out of a great Drove, such as the Merchants bring yearly into Italy out of Dalmatia and the bordering Countries, one Beast happen'd to fraggle from the rest, and be left behind; ' which

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s which a Cowherd brought to a Farm be?

' longing to the Count Borromeo: This Beast

' infected all the Cows and Oxen of the

' Place where he was taken in, with the

f same Distemper he labour'd under; the

Beast it self dying in a few Days, as did all

' the rest, except one only, who had a Row-

el put into his Neck.

'Tis no strange thing therefore, if from the Effluvia, proceeding from the fick and ' dead Cattle, and from the Cow-Houses ' and Pastures where they were fed, and ! perhaps from the Cloaths of the Cowherds themselves, this Insection falling upon a proper Subject, should diffuse it self so ! largely. When therefore this subtile veno-" mous Exhalation happens to meet with any of the Cow-kind, joyning it felf with the ferous Juices and Animal Spirits, 'tis no wonder it should disorder the natural Consistence of the Blood, and corrupt the Ferments of the Viscera; whence it follows, that the natural Functions of the Viscera are vitiated. 4 and the requisite Secretions stop'd. For

^{&#}x27;Dr. Ramazzini not only supposes, but afferts, that a Poison of this kind, rather fixes and coagulates, than dissolves the Blood: For beside the formentioned Symptoms

felf is a Witness, since the dead Carcases being opend while they are yet hot, little or no Blood runs out; those Animals having naturally a thick Blood, especially when the Fever has continued so many Days. And he adds, that whether this Plague came first from the Foreign Beast, or any other way, it only had its Effect upon some Animal, in which there was the morbid Seminary or Ground prepared for its and the pared for

and Paftures, where they were feel, and In the dead Bodies of all the Cattle, it was particularly Observ'd, that in the Omafus, or Paunch, othere was found a hard compact Body, firmly adhering to the Coats. of the Ventricle of a large Bulk, and an intolerable Smell: In other Parts, as in the Brain, Lungs, Occ. were several Hyda tides, and large Bladders fill'd only with Wind, which being open'd gave a difagreeable Stink there were also Ulcers at the Root of the Tongue; and Bladders fill'd with a Serum on the sides of it. ' This hard and compact Body, like Chalk, in the Omasius, the Author takes to be the first Product of the contagious Miasma. He adds a Prognostick, believing that from ' so many Attempts and Experiments, and the 10038

the Method observed in the Cure of this Venom, at last a true and specifick Remedy will be found out to extirpate the poisonous Maglinity wholly: He also expects some mitigation of it, from the approaching Winter and North Winds. He does not think this Contagion can Effect Human Bodies, since even other Species of ruminating Animals, symbolizing with the Cow-kind, are yet untouched by it; nor was the Infection taken by the Air, after the dead Bodies had been carefully Buryed.

As for the Cure of it: From the Chirurgical part, he commends Bleeding, burning on both fides the Neck with a broad
red-hot Iron, making Holes in the Ears of
with a round Iron, and putting the Root
Hellebore in the Hole, a Rowel or Seton
under the Chin, in the Dew-laps; he also
orders the Tongue and Palate to be often
wash'd and rub'd with Vinegar and Salt.

'He recommends the Use of Alexiphar'micks, and specifick Cordials; and three
'Ounces of Jesuits Bark, infus'd in ten or
'twelve Pints of Cordial Water or small
'Wine, to be given in four or sive Doses; which is to be done in the beginning of the
'Fever

Fever, when the Beast begins to be Sick. Or else two Drams of Sperma-Cæti disfolv'd in warm Wine. Again he prescribes Antimonium Diaphoreticum. Against Worms breeding, an Infufion of Quickfilver, or Petroleum and Milk is to be given. And laftly, as' to the Food, he directs' Drinks made with Barley or Wheat Flower or Bread, like a Ptisane, fresh sweet ' Hay made in May and macerated in fair Water. In the mean time the Cattle must be kept in a warm Place, and Cloath'd, daily making Fumigations in the Cow-'Houses with Juniper Berries, Galba'num, and the like. As to Prevention, he enjoyns Care in cleaning the Stalls, and scraping the Crust off from the Wall; ' Care also is to be taken of their Food, the Hay and Straw not spoil'd by Rain ' in the Making, and he judges their Food ought to be but sparing: He likewise recommends currying, with a Comb and Brush; with Setons under their Chin, made with a hot Iron run through the Part, ' and kept open with a Rope put through it. William Dente with the B

After which we have the Receipt: Or the Ingredients of a Medicine for the speedy Cure

Cure of that mortal Distemper amongst Cows; sent over from Holland, where a like Distemper raged among the Black Cattel.

Recipe Veronicæ, Pulmonariæ, Hyssopi, Scordii, ana M. iv. Rad. Aristolohiæ rotundæ, Gentianæ, Angelicæ, Petasitidis, Tormentillæ, Carlinæ, ana unc. 12. Bac. Lauri & Juniperi, ana unc. 12. Misc. fiat Pulvis.

Bleed the Cow, and give her 3 or 4. Mornings successively, an Ounce of this Powder with a Horn, in warm Beer.

'If the Cow continues Distemper'd, after the Omission 2 or 3 Days, repeat the Medicine for 3 or 4 Days again.

I cannot help taking Notice likewise of the raging Distemper which was among the Cows about London, Anno 1714. it was so Violent and Infectious, that if one had it, all others that came within Scent of her, or even eat where she Grazed, was surely infected; it seized their Heads, and was attended with running at the Nose, and a very nauseous Ereath, which killed them in France.

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three or four Days. The Herdsmen would not allow it to be the Murrain, nor could give any Account from whence it did proceed, or could find out any Remedy against it; they only tell us the unusual dry Summer, and the continued East-Winds, were the occasion of it. This Distemper had been for two or three Years before it came to us, in Lumbardy, Holland, and Hambrough, to the Loss almost of all their Cattle. The States of Holland caused a Medicine to be published for the Good of those who had their Cattle thus Distemper'd, but having" been try'd here, 'twould not Cure one in feven, but rather increased the Infection by keeping the distemper'd Cattle longer alive (by some Days) than they would have been without it. Tis remarkable, that no Oxen had this Distemper, but only Milch-Cows, which were more tender than the Males. The Herdsmen to keep their Cattle from the Infection, let them Blood in the Tail, and rubb'd their Noses and Chaps with Tar; and when any happened to die of it, they were burnt and buried deep under Ground. It began at Islington, spreading it self over many Places in Middlesex and in Essex, but did not reach so far Westward from London as twenty Miles.

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The most general Opinion concerning the Cause of this Distemper, was, that the Cattle were first infected by drinking some unwholsome standing Water, where its probable some Poisonous Infects were lodged and bred; the Summer having been extreamly dry, attended almost constantly with Easterly Winds, the Grass almost burnt up, and the Herbs of the Gardens destroyed by Insects; but such as they were, (unsit for Table Use) were given to the Cattle. There was likewise so great want of Water, that many were forced to drive their Cows sive or six Miles to it.

The Electuary publish'd upon this Occafion by the States of Holland, was compos'd of most, if not all the Druggs used in
the most serviceable Medicines that were
made use of against the Plague among Men;
most of which Ingredients we know to be
mortal to Insects, as strong scented Roots
and Herbs; but above all, Aromatick Gums
and Saps of Plants; as Rhue, Garlick, Pitch,
Tar, Frankinsense and Olibanum. These
Ingredients are much used in France and
Italy to prevent or destroy Insection, by
burning them and smoaking such Bodies,
Letters, or any other things as are brought from
insected Places, after they have made

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Quarentine, and are not suffered to come on Shore till they have undergone this Operation.

It is not against Experience, that Insects can live and encrease in Animal Bodies: How often do we find Men, Women and Children troubled with Worms? What varieties of those Insects are often voided by them? And how should that be, if they were not either suck'd into the Stomach with the Breath, or taken into it with some unwholsome Food? For they cannot breed in such Bodies from nothing, without either their Eggs or themselves are brought thither by some Accident: For if they were the natural Produce of Animal Bodies, they would then be alike common to all, which we know they are not.

I have been informed, that in the Year 1714, when this Mortality among the Cows was at its height, that towards the End of the Summer, fome Farmers brought in fresh Cattle, and turning them into the same Fields, where many Cows had died before, they took the Infection and died likewise; but the following Spring, those Fields were void of Infection, and the Cows that were put into them did very well, but what were then

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then put into the Cow-Houses, where the sick Cows had been the Year before, were seiz'd with the Distemper, and died; which seems to inform us, that it was the Effect of Insects, which thro' the Warmth of those Stalls, were preserv'd from the Severity of the Winter's Frost; but such as were left in the open Fields, were destroy'd by the Cold. I have heard that a Woman about Camberwell cured Six in Seven of her Cows, by giving them once a Week, an Insusion of Rhue and Ale-wort.

But it may be ask'd, why these insectious Distempers, subject to Men, Cattle and Plants, are not universal? And why the Plague should not be as well in India, China, the South parts of Africa and America, as in these parts of the World? (For I do not find it has ever been in those Places.) This Query gives me a farther Opportunity to suggest, that Insects are the Cause of it, and that they are brought with the Easterly Winds. In the first place, so far as I can learn, there is not naturally in America any one Kind of Creature or Insect that is found in any other Part of the World, and the Plants likewise are all different from those of other Countries; as it is the same in India, China, &c. whose Products are quite different from what

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we find elsewhere. Supposing then that these pestiferous Insects are only the Produce of Tartary, let us consider to what Parts of the World they may be carry'd from thence with the Easterly Winds; and whether India, China, the South of Africa and America, are not beyond their Reach, or can reasonably be affected by them.

Whoever considers the Disposition of the Land and Water in the Globe, may thus account for the Passage of these Insects, with an Easterly Wind from Tartary, to all the Parts of Europe, Asia-Minor, Palestine, Barbary, and other South Coasts of the Mediterranean Sea, whether, 'tis highly probable, they may come, without meeting any thing in their Way to obstruct their Course.

Mountains of Note between Fartary and the places which have been subject to the Plague: The Alps run parallel with the Winds coming from Tartary, and therefore does not any Way hinder their Passage: The Mountains of Dalmatia are not high enough to prevent the Passage; or if they were; the Caspian Sea is sufficiently large to let them pass to the South Parts of Europe, the Mediterranean

Sea, and the North Coasts of Africa, even to their most Western Bounds.

Now it may be expected, perhaps, by some, that these Winds should yet continue their Progress as far as America; but as yet, so far as I can learn, these Land-Winds, when they have blown with the greatest Force, and have been of the longest Continuance, have not reach'd farther than about three hundred Leagues beyond the Western Coasts of Europe, which is a Trifle in Comparison of the vast Ocean between Us and America: Besides, it is my Opinion, that the Winds which blow over so vast a Tract of Land, as these Tartarian Winds must do, that I suppose convey and support the pestiferous Insects, are of so different a Nature from the Winds coming from the Ocean, that 'tis likely those Creatures which would subsist in the one, would be destroy'd by the other: So that if I am right in this Conjecture, America cannot be subject to the Plague.

Mount-Atlas, which is a vast Ridge of Mountains, running from the Ocean almost as far as Egypt, and are back'd with the Desarts of Lybia, may very likely obstruct the Passage of these Insects to the South of Africa; and for that Reason, perhaps, secure that

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that part of the World from Plagues. So likewise Mount-Cancasus, or Ararat, which is one of the highest Ridge of Mountains in the World, running from East to West, thro' Persia and India, may secure the South Parts of those Countries from the Plague, by stopping the Passage of those infectious Creatures, if any Winds from Tartary should happen to blow them that Way: And as China lies to the East of Tartary, so it must be Westerly Winds which must infect that Country with the Plague, if it proceeds from what I imagine: But we do not yet find that Westerly Winds are frequent in those Parts; or if they are, we may be affurd they cannot blow at the same time when the Insects are hatch'd and carried the contrary Way by the Wind from Tartary. We are inform'd, that upon the Coast of China, the Winds are fo regular, that from October to March they continually blow from the North-East, and from that Month to October, the direct contrary Way.

And Plants are no less subject to be destroy'd by Insects, than Men and Quadrupedes, as I have explain'd in the Chapter of Blights, in my New Improvements of Planting and Gardening.

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Plants of all degrees are subject to Blights, which are so variously communicated to them, that sometimes a whole Tree will perish by that Distemper; now and then a few Leaves, or Blossoms only, and perhaps a Branch or two, will be shrivel'd, or scorch'd by it, and the rest remain green and flourishing. I have yet never observed this Discase to happen among Plants, but upon the blowing of sharp and clear Easterly Winds, which are most frequent in England about March; but sometimes happen in other Months. It is very observable, that the Caterpillars generally attend these Winds, chiefly infecting some one fort of Tree more than another, and even then not everywhere uponthe kind of Tree they attack, but some particular Branches only; from which Obfervations I think we may draw the following Inferences, either that the Eggs of those Insects are brought to us by the Easterly Winds, or that the Temperature of the Air, when the Easterly Winds blow, is neceffary to hatch those Creatures, supposing their Eggs were already laid upon those infected Parts of the Treesthe preceding Year. chai araile sui

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Ine Blights which are attended with large Worms or Caterpillars, seem'd to be rather hatch'd with the East Wind, than that the Eggs of those Creatures are brought along with its but those Blights which produce only those small Insects which occasion the curling of the Leaves of Trees, may proceed from Swarms of them, either hatch'd or in the Egg, which are brought with the Wind.

which are most steaueur in Employed about

Some perhaps may object, that the East Wind is too cold to hatch these Creatures; how comes it then that we find them hatch'd when those Winds reign! Or is it reasonable to conjecture that the same degree of Heat is necessary to enliven an Insect as is required to hatch the Egg of a Pullet? The Infects of Norway, Iceland, and fuch like cold Climes, must certainly have less Heat to produce them, than Greatures of the fame Race must necessarily have in those Climates which lye nearer to the Sun. Every Creature, without doubt requires a different Period of Heat or Cold to enliven it; and put it in Motion, which is prov'd by to many known Instances, that I conceive there is no room for any dispute upon that score.

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But there may yet be another Question, viz. Whether it is not the East Wind of it self that blights, without the help of Infects? But that may be easily resolved on my side; for that if it was the Wind alone that blighted, then every Plant in its way must unavoidably be infected with its Poison; whereas we find the contrary on a single Branch it may be, or some other distinct Part of Plants,

And again, to shew how reasonably we may conjecture that 'tis Infects which thus infect the Trees, let us only consider, that every Insect has its proper Plant, or Tribe of Plants, which it naturally requires for its Nourishment, and will feed upon no other kind whatsoever: Therefore 'tis no wonder to see one particular sort of Tree blighted, when all others escape; as for Example, that Wind which brings or hatches the Caterpillars upon the Apple-Trees, will not any way infect the Pear, Plumb, or Cherry with Blights, because, were the Shoals of Insects natural to the Apple, to light only upon those other Trees mentioned, they would then want their proper Matrix to hatch in; or if they were hatch'd already, G 2 they

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they would Perish for want of their natural Food; so that itis morally impossible that all sorts of Trees should be blighted at the same time, unless the Eggs of every kind of Insect, natural to each Tree, could be brought at one time with the Wind, or that an Easterly Wind could contain in it at once, as many differing Periods of Cold or Heat, as would be required to hatch and maintain each differing kind of those Creatures.

The common People in the Country feem to be of my Opinion, that Blights are brought by the East Winds, which they are so well satisfied brings or hatches the Caterpillar, that to prevent the too great Progress of Blights, it is common for them when the East Winds blow, to provide large Heaps of Weeds, Chaff, and other combustible Matter on the Wind-side of their Orchards, and fer them on Fire, that the Smoak may poison either the Insects or their Eggs, as they are pass'd along. By this Contrivance I have often known large Orchards preserv'd, when the neighbouring Parts have suffer'd to the Loss of all their Fruit. only upon those ciner

varia.

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And I have also seen these Fires made with good Success to destroy the Caterpillars, even after they were hatch'd, and had began to devour the Trees, by suffocating them, and forcing them to drop to the Ground, where they have been swept up in large Quantities, and kill'd. I have heard it affirm'd by a Gentleman of Reputation, that Pepper-Dust; being powder'd upon the Bloffoms of any Tree, will preserve them from Blights, which may be, because Pepper is said to be present Death to every Creature but to Mankind. Now altho' this last Secret is too costly for common Use, yet it may be of Service in some particular Place for the Tryal of a new Tree, where a Taste of the Fruit is defired, and besides it helps to inform us, that Blights are occasion'd by Insects, or their Eggs, lodging upon a Plant, and that Pepper-Dust will not suffer them either to live, or to be hatch'd.

Another Remark (which to me is Demonstration) that Blights proceed from Infects, or their Eggs (being brought with the Easterly Winds) was the total Destruction of the Turneps, Ann. 1716, on the West Side of London; about October

we had dry Easterly Winds for a Week or ten Days, and several thousand Acres of Turneps, which were then well grown, turn'd Yellow and decay'd, unless in such Places only as were shelter'd by Hedges, Houses, or Trees, where they remaind Green 'till the Infects, which came with the Wind in about a Week's Time, destroy de those also. Some Farmers imagin'd that the Birds which were there in great Flocks, had caten the Leaves of their Turneps, and contriv'd all Means possible to destroy them, till I convince them that the Birds were rather Friends than Enemies, and came there to feed upon the Caterpillars, which were in fuch great Numbers, that each Turnep-plant had not less than a Thousand upon it; and that Infects frequently pais in Clouds and numberless Armies after this manner, is plain from several Instances, which have happen'd in my Time, and one of them (I think in June, Ann. 1717) passing over London were suffocated, (I suppose) with the Smoak of the Sea-Coal, and drop'd down in the Streets, infomuch that a square Court be longing to the Royal Society was almost. cover'd with them; these were of the Fly Kind, and fully perfected.

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It may be ask'd, perhaps, how these Insects came to destroy the Turneps only, and not touch the other Greens of the Fields, as Cabbages, Carrots, Parsnips, and the like? Every Herb has its peculiar Insect, like the Trees I have mention'd: Nay more than this, the Insects which Nature hath design'd to prey upon the Flower of a Plant, will not eat the Leaves, or any other Part of the same Plant. The Leaves of Plants have their Insects natural to them, the Bark and Wood likewise have their respective Devourers; and those several Insects have other Kinds, which lay their Eggs, and seed upon them.

of Animals and Plants, how they have been particularly Infected, but I rather choose to refer my Reader to the Chapter at large, of Blights and Plagues, in my New Improvements of Planting and Gardening, &c.

By the foregoing Accounts we may observe, that Mankind, Quadrupedes and Plants seem to be infected in the same manner, by unwholsome Insects; only allowing this difference, that the same Insect which is poisonous to Man

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Man, is not so to other Animals or Plants, and lo on the contrary, we observe likewife, that Pepper which is of Use to Mankind, is poilonous to other Creatures, and tho' a Man cannot eat of the Cicuta, or Hemlock, without prejudice, yet a Cow and some other Animals will eat it to their Advantage, and the Manchanefe Apple; which is deadly Poison to almost every Creature is eaten greedily by Goats; and which is strange, the Milk of those Goats is wholsome to Mankind. Again, we may remark that Camphire which may be taken at the Mouth by the Human Race, and is helpful in many Cases, will destroy Infects; for among the Curious who have Cabinets of Rarities, it is a common Practice to lay it in their Drawers and Cases, to destroy the smaller kind of Infects, which would otherwise des your their Collections by both the holining refor my Leader to the Classics at

The Smoaking of Tobacco is helpful to some Constitutions, but was the pure Leaf to be taken directly into the Stomach, it would Purge in a violent Manner, and the Oil of it as I am told is a deadly Poison; however it is to be remarked, that in the time of the last Plague in London, Anno 1665, that Distemper did not reach those who smoak'd

smoak'd Tobacco every Day, but particularly it was judged the best to smoak in a Morning. We have an Account of a famous Physitian, who in the Pestilential time took every Morning a Cordial to guard his Stomach, and after that a Pipe or two before he went to visit his Patients; at the same time we are told, he had an Iffue in his Arm; by which, when it begun to fmart, he knew he had received some Infection, (as he says) and then had recourse to his Cordial and his Pipe, by this means only he preserved himself, as several others did at that time by the same Method. I suppose therefore, that the Smoak of Tobacco is noxious to these Venemous Insects, which I believe to be the Cause of the Plague, either by mixing itself with the Air and there destroying them, or else by provoking the Stomach to discharge it self of those Morbid Juices which would nourish and encourage them.

When I consider that the dead Bodies of the miserable People of Marseilles were found full Insects, and that those Worms could be no way so suddenly killed, as by putting Oil or Lemon Juice upon them, it brings to my Mind several Tryals I have made upon Insects of various Kinds, in or

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der to occasion their speedy Death. In these Experiments, I found that most of the larger Kinds would live some Minutes in Spirit of Wine and other spirituous Liquors, when they were forced into them, and that Oil immediately suffocated them, from whence I suppose, the Air, or Breath they draw, is exceeding fine and subtile, and that a thick Air consists of too gross Parts for them to breath, and that fince Oil destroys the larger Kinds of them immediately, the Oleagenous Particles evaporating from such Bodies as Oil, Pitch, Tar, &c. expanding them. selves, and mixing with the common Air, would render it too thick for the smaller Kinds to Sublish in And mount of the

We observe likewise that all Aromatick Herbs, &c. were found useful in the time of the dreadful Pestilence in 1665, which helps to confirm what I have just now related, for a single Leaf of Rosemary contains at least 500 little Bladders of QilyJuice which by rubbing, break and afford that Grateful smell we find in that Plant, but in that as in all other Aromatick Herbs, was we to bruise the Leaves 'till all those Bladders were broken, the recreating Smell would be lost, and we should find only remaining an earthy, disagreeable Flavour,

vour, arising from the common undigested Sap; so if we take the Leaves of Fifty several Kinds of Aromatick Plants, and after bruifing them, make up distinctly the bruis'd Leaves of each into Balls, and dry them by the Sun, or otherwise, they will all afford the same Smell; for the breaking of those Bladders, or Blifters, which yield the different Smells (from the Essence they severally contain) makes them lose all their Spirit or Effence.

In the Culture of these Aromatick Herbs, fuch as Rosemary, Lavander, Thyme, &c. we may remark, that they are never destroy'd by any Insect, which may still give us a further Proof of the Antipathy all Infeets have to them, for which Reason some People are used to smoak their Houses with these Aromatick Herbs, but especially where the Chambers or Rooms are small and close; and it has been proved, that the Burning of Aromatick Gums and Woods, have likewise been useful in purifying the Air in a House, and preventing the spreading of Pestilential Distempers.

In 1665 it was observable, that in Aldermanbury, and other Places, where there were H 2

large

large Ware-Houses of Aromatick Druggs, the Infection did not reach; so that it scems where there is Quantity enough of fuch Woods or Gums, as yield a strong Smell, we have no Occasion of burning them, the bare Effluvia rising from a large Mass, haying the same Effect as burning a small Quantity. As every one of these Druggs, or Gums, is more pungent or operative upon the Organs of Smelling, so we may be asfured, the Vapour proceeding from them fill a larger Space in the Air; but perhaps a Tun Weight of the strongest Aromatick among them, in the Body or Mass, will not purifie so much Air as half an Ounce of the same will do by burning; for the Smoak of a few Grains of Tobacco, when the Air is clear, will fenfibly touch the Smell above forty Yards, tho' a Pound of the Herb unburnt will not affect the Smell above a Foot.

These Observations may serve to inform us, that the burning of Aromaticks may help to keep the Air in an healthful State; but as Men of Business must often change their Station, and pass thro' different Degrees and Tempers of Air, it is for that Reason, that Aromaticks, and strong smelling Roots, Herbs, &c. are recommended to

be taken into the Stomach. The Cordial which we call Plague-Water, compos'd of Aromatick Herbs, has been used with Succcss, as has also been Conserves of Rhue, &c. and the Use of Garlick in the Amiens Distemper, particularly, is remarkable. To this I may likewise add a Relation I had lately from fome Men of Quality concerning a Plague, which some Years since destroy'd a great part of the French Army: It was observable, that at that Time the Irish Regiments in that Service were preferv'd by rubbing their Bread every Morning with Garlick, which undoubtedly must taint their Breath for many Hours, and so regulate the Air about them, that the unwholfome Infeets could not approach them.

Upon this occasion, I cannot omit observing the extraordinary Remedy for destroying the Insect call'd the Wevel in Corn or Malt, as it was Communicated to me by the Learned Dr. Bentley, Master of Trinity College, Cambridge; that Worthy Gentleman tells me, that the Herb Parietaria, or Peletory of the Wall, is a Sovereign Remedy against the Wevil in Corn or Malt, and according to the Information he has had, an Handful of that Plant being laid here and there in a

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Grainary infected by those Insects, will infallibly destroy them in a Day or two; which Discovery is so useful, that I think it ought to be made as publick as possible, and in this place serves to confirm my Hypothesis, That the Effluvia of some Plants are Destructive to Insects.

In the next place I come to consider, how much a certain Quantity of Air is requisite to preserve a single Animal Body, and the Knowledge of that, is what I account one of the chief Preservatives of Health. I have often been Concern'd to find a Family of six or seven pinn'd up in a Room, that has not contain'd Air enough for the Maintenance of Health in one single Person; but such is the Hardship of our Poor in many Places, and is frequently the Occasion of their Death.

We may easily conceive how this happens, if we examine the Case of the Diving Tub, how short a while a Man can live in it, without a Supply of fresh Air; the occasion of which is, that when he has drawn in with his Breath, all the Grosser Parts from the Air enclosed in the Tub, the rest grows hot and suffocating, by being too much rarifyed.

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From whence I suppose, a Room of Nine or Ten Foot Cube, will contain Air enough to keep a fingle Man alive for one Day, but if two were to inhabit that Space for the same time, each would receive but half his Nourishment, and so both would be Sufferers; but a Room, perhaps, containing twice that Space, might well enough ferve five People for a Day, supposing that all External Air was kept from Communication with such a Room, during the time the People were in it; for, as I have observ'd, that Air has certain Nourishing Qualities in it, for the Maintenance of Humane Life: so when those Nourishing Parts are imbibed, and drawn in by the Lungs, the Air is return'd and flung out as invalid, and cannot be of Use a second Time to the same Person; an Example of which, we find very curiously demonstrated by Mr. Newyentyte; he tells us, that in making this Experiment, he discover'd that the same Nourishing Quality in the Air, which is necessary to maintain Humane Life, is also necessary to maintain Flame, which he proves thus: A short of the state of the sta

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A lighted Candle being fet under a Bell, closely fix'd upon a Table, will burn perhaps a Minute or two in Proportion to the Quantity of Air pent up with the Candle in the Bell; but as foon as the Quality in that Air, which is necessary to feed the Flame, is exhausted, the Candle goes out; this has been often try'd with the fame Success; and we find, that by letting into the Bell some fresh Air, a little before the Candle should have gone out, it will fill contime burning! And then to thew that this Quality in the Air 95 the Tame which feeds the Life in Humane Bodies, Mit was try'd, whether the Air, returning from the Lungs, would not have the fame Effect upon the Candle, as the External Anchad before, but rehad noe, the Candle went out as its usual Thus, builceins, when we flick in Air for Breath, whie Lungs takes what is necellary for the Nomillament of our Bodies, and tetters back the reft. and our test have the Air, which is necessary to maintain Hu-

that where the Rooms, or Houses are small, there ought to be frequent Admissions of the External Air, but especially where those Rooms or Houses are too much crouded with

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with People, and if it is supposed that the External Air is Infectious, the burning of Aromaticks, Gums, or Herbs, upon the letting in of fresh Air, is necessary.

From the foregoing Observations we may learn, that all Pestilential Distempers, whether in Animals or Plants, are occasion'd by poisonous Insects convey'd from Place to Place by the Air, and that by uncleanly Living and poor Diet, Humane, and other Bodies are disposed to receive such Insects into the Stomach and most noble Parts, while, on the other Hand, such Bodies as are in full Strength, and are well guarded with Aromaticks, would resist and drive them away, by chiefly how necessary it is to allow the Body a Freedom of Air, and how to correct it if it is Insected.

And I shall conclude with some Memorandums taken from the Papers of a learned Gentleman, who in the time of the late Plague in *London* was curious enough to make his Remarks upon the Signs of that Distemper, and the Method of its Cure.

He tells the Plague proceeds first from a Corrupted and unwholsome Air.

The

The Second, is putrified Humours, hot Blood, caused by breathing in such corrupt Air; and if the Diet before were perverse, it fills the Body with superfluous Humours.

Concerning the common Fear of Infection, which makes many rich Men, which might and ought to maintain poor visited People; and some Physicians likewise, whose Duty it is to administer Physick to them, slee away, so that in time of great Infection we hear more cry out for want of Bread and necessary means, than for anguish of the Disease.

Hence also came that inhumane Custom of shutting up of Houses that are visited with Pestilence, dejecting their Spirits, and consequently making way for the Disease, and taking Men from their Labour, which is a digester of Humours, and a preserver of Health; and if the Disease be Infectious (as in their Opinion it is) it is plain Murder, to shut Men up in an infected and destroying Air.

But all Mens Bodies are not full of Humours; if they were, all would be infected.

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After this I find the following Directions to prevent Infection. First, To avoid the Fear of it, and support the Spirits in the next place. Secondly, To keep the Body soluble, and to use the Juice of Lemons often. Thirdly, He recommends a Diet of quick Digestion, and to eat and drink moderately: He prescribes likewise the Smell of Aromaticks, such as Camphire, Styrax, Calamites, Wood of Aloes, &c. and to be taken inwardly, Mithridate, Angelica, and Petasetis-Roots; and, in an express Manner, he recommends Cleanliness, and the Choice of a clear Air.

After Infection he tells us the Signs are, an extraordinary inward Heat, a Difficulty of Breathing, a Pain and Heaviness in the Head, an Inclination to Sleep, frequent Vomiting, immoderate Thirst, a Dryness on the Tongue and Palate; but especially if we discover Risings or Swellings behind the Ears, in the Groin, or other tender Parts of the Body; but this last, where it happens, is of Advantage to the Patient; for he says, in such a Case, the Plague is rarely Mortal, for then Nature has Power to despel the Venom, and drive it from the most noble Parts; and then he recommends Bleeding; but if Spots appear

pear upon the Body, he advises the Use of Emeticks, and afterwards Sudorificks, which by his Papers, we find he gave with good Success, but he decries the Use of Opiates at the Beginning of the Distemper.

He concludes with Directing of proper Cordials, to refresh and strengthen the Patient, such as Confect. Hyacint. Confect. Alchermes, Pulv. Gasconia, Bezoar Orient. and such like.

But my Worthy Friend, Sir John Colebatch, who has in other Cases declared himself for Publick Good, has, in this, likewise been Careful to provide against the Infection, and especially recommends to his Friends, to collect large Parcels of the Ripe Ivy Berries which are known from the others by their Blackness.

Thus have I given my Reader such a Vein of the Plague in general, as may point out to him its natural Cause, Progress of Infection, and the Methods that have been used by the Learned, to prevent the spreading that Terrible Distemper.

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